



SEQUENCE LISTING

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<120> NON-AGONISTIC ANTIBODIES TO HUMAN GP39, COMPOSITIONS
CONTAINING, AND THERAPEUTIC USE THEREOF

<130> 037003-0280632

<140> 09/874,141

<141> 2001-06-06

<150> 60/209,584

<151> 2000-06-06

<160> 53

<170> PatentIn Ver. 2.1

<210> 1

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
humanized peptide

<400> 1

Asp Ile Val Met Thr Gln Ser Pro Ser Phe Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Ile Thr Ala
20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
35 40 45

Tyr Ser Ala Ser Asn Arg Tyr Thr Gly Val Pro Asp Arg Phe Ser Gly
50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro
65 70 75 80

Glu Asp Phe Ala Asp Tyr Phe Cys Gln Gln Tyr Asn Ser Tyr Pro Tyr
85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
100 105

<210> 2

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
humanized peptide

<400> 2

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Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
 1             5             10             15
Glu Arg Ala Thr Ile Asn Cys Lys Ala Ser Gln Asn Val Ile Thr Ala
          20             25             30
Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile
          35             40             45
Tyr Ser Ala Ser Asn Arg Tyr Thr Gly Val Pro Asp Arg Phe Ser Gly
          50             55             60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Ala
          65             70             75             80
Glu Asp Val Ala Asp Tyr Phe Cys Gln Gln Tyr Asn Ser Tyr Pro Tyr
          85             90             95
Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
          100             105

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<210> 3

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
humanized peptide

<400> 3

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Asp Ile Val Met Thr Gln Ser Pro Ser Phe Met Ser Thr Ser Val Gly
 1             5             10             15
Asp Arg Val Thr Ile Thr Cys Lys Ala Ser Gln Asn Val Ile Thr Ala
          20             25             30
Val Ala Trp Tyr Gln Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile
          35             40             45
Tyr Ser Ala Ser Asn Arg Tyr Thr Gly Val Pro Asp Arg Phe Ser Gly
          50             55             60
Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Met Gln Pro
          65             70             75             80
Glu Asp Phe Ala Asp Tyr Phe Cys Gln Gln Tyr Asn Ser Tyr Pro Tyr
          85             90             95

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Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 4

<211> 107

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 humanized peptide

<400> 4

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Met Ala Thr Ser Leu Gly
 1 5 10 15

Glu Arg Val Thr Ile Asn Cys Lys Ala Ser Gln Asn Val Ile Thr Ala
 20 25 30

Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile
 35 40 45

Tyr Ser Ala Ser Asn Arg Tyr Thr Gly Val Pro Asp Arg Phe Ser Gly
 50 55 60

Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Ser Met Gln Ala
 65 70 75 80

Glu Asp Val Ala Asp Tyr Phe Cys Gln Gln Tyr Asn Ser Tyr Pro Tyr
 85 90 95

Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 5

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 humanized peptide

<400> 5

Glu Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
 1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Asp Ser Ile Thr Asn Gly
 20 25 30

Phe Trp Ile Trp Ile Arg Lys Pro Pro Gly Asn Lys Leu Glu Tyr Met
 35 40 45

Gly Tyr Ile Ser Tyr Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu Lys
 50 55 60

Ser Arg Ile Ser Ile Ser Arg Asp Thr Ser Lys Asn Gln Phe Ser Leu
65 70 75 80

Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Gly Val Tyr Tyr Cys Ala
85 90 95

Cys Arg Ser Tyr Gly Arg Thr Pro Tyr Tyr Phe Asp Phe Trp Gly Gln
100 105 110

Gly Thr Thr Leu Thr Val Ser Ser
115 120

<210> 6

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
humanized peptide

<400> 6

Glu Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Asp Ser Ile Thr Asn Gly
20 25 30

Phe Trp Ile Trp Ile Arg Lys His Pro Gly Asn Lys Leu Glu Tyr Met
35 40 45

Gly Tyr Ile Ser Tyr Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu Lys
50 55 60

Ser Arg Ile Ser Ile Ser Arg Asp Thr Ser Lys Asn Gln Phe Ser Leu
65 70 75 80

Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Gly Val Tyr Tyr Cys Ala
85 90 95

Cys Arg Ser Tyr Gly Arg Thr Pro Tyr Tyr Phe Asp Phe Trp Gly Gln
100 105 110

Gly Thr Thr Leu Thr Val Ser Ser
115 120

<210> 7

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
humanized peptide

<400> 7

Glu Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
 1 5 10 15

Thr Leu Ser Leu Thr Cys Ala Val Ser Gly Asp Ser Ile Thr Asn Gly
 20 25 30

Phe Trp Ile Trp Ile Arg Lys His Pro Gly Asn Lys Leu Glu Tyr Met
 35 40 45

Gly Tyr Ile Ser Tyr Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu Lys
 50 55 60

Ser Arg Ile Ser Ile Ser Arg Asp Thr Ser Asn Asn Gln Phe Ser Leu
 65 70 75 80

Asn Leu Asn Ser Val Thr Arg Ala Asp Thr Gly Val Tyr Tyr Cys Ala
 85 90 95

Cys Arg Ser Tyr Gly Arg Thr Pro Tyr Tyr Phe Asp Phe Trp Gly Gln
 100 105 110

Gly Thr Thr Leu Thr Val Ser Ser
 115 120

<210> 8

<211> 120

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 humanized peptide

<400> 8

Glu Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
 1 5 10 15

Thr Leu Ser Leu Thr Cys Ala Val Tyr Gly Asp Ser Ile Thr Asn Gly
 20 25 30

Phe Trp Ile Trp Ile Arg Lys Pro Pro Gly Asn Lys Leu Glu Tyr Met
 35 40 45

Gly Tyr Ile Ser Tyr Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu Lys
 50 55 60

Ser Arg Ile Ser Ile Ser Arg Asp Thr Ser Lys Asn Gln Phe Tyr Leu
 65 70 75 80

Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Gly Val Tyr Tyr Cys Ala
 85 90 95

Cys Arg Ser Tyr Gly Arg Thr Pro Tyr Tyr Phe Asp Phe Trp Gly Gln
 100 105 110

Gly Thr Thr Leu Thr Val Ser Ser
 115 120

<210> 9
 <211> 107
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 humanized peptide

<400> 9
 Asp Ile Val Met Thr Gln Ser Gln Lys Phe Met Ser Thr Ser Val Gly
 1 5 10 15
 Asp Arg Val Ser Ile Thr Cys Lys Ala Ser Gln Asn Val Ile Thr Ala
 20 25 30
 Val Ala Trp Tyr Gln Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile
 35 40 45
 Tyr Ser Ala Ser Asn Arg Tyr Thr Gly Val Pro Asp Arg Phe Ser Gly
 50 55 60
 Ser Gly Ser Gly Thr Asp Phe Thr Leu Thr Ile Ser Asn Met Gln Ser
 65 70 75 80
 Glu Asp Leu Ala Asp Tyr Phe Cys Gln Gln Tyr Asn Ser Tyr Pro Tyr
 85 90 95
 Thr Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 100 105

<210> 10
 <211> 120
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 humanized peptide

<400> 10
 Glu Val Gln Leu Gln Glu Ser Gly Pro Ser Leu Val Lys Pro Ser Gln
 1 5 10 15
 Thr Leu Ser Leu Thr Cys Ser Val Thr Gly Asp Ser Ile Thr Asn Gly
 20 25 30
 Phe Trp Ile Trp Ile Arg Lys Phe Pro Gly Asn Lys Leu Glu Tyr Met
 35 40 45
 Gly Tyr Ile Ser Tyr Ser Gly Ser Thr Tyr Tyr Asn Pro Ser Leu Lys
 50 55 60

Ser Arg Ile Ser Ile Thr Arg Asp Thr Ser Gln Asn Gln Phe Tyr Leu
 65 70 75 80
 Gln Leu Asn Ser Val Thr Thr Glu Asp Thr Gly Thr Tyr Tyr Cys Ala
 85 90 95
 Cys Arg Ser Tyr Gly Arg Thr Pro Tyr Tyr Phe Asp Phe Trp Gly Gln
 100 105 110
 Gly Thr Thr Leu Thr Val Ser Ser
 115 120

<210> 11
 <211> 38
 <212> PRT
 <213> Homo sapiens

<400> 11
 Asp Ile Gln Met Thr Gln Ser Pro Ser Phe Leu Ser Ala Ser Val Gly
 1 5 10 15
 Asp Arg Val Thr Ile Thr Cys Trp Tyr Gln Gln Lys Pro Gly Lys Ala
 20 25 30
 Pro Lys Leu Leu Ile Tyr
 35

<210> 12
 <211> 38
 <212> PRT
 <213> Homo sapiens

<400> 12
 Asp Ile Gln Met Thr Gln Ser Pro Ser Thr Leu Ser Ala Ser Val Gly
 1 5 10 15
 Asp Arg Val Thr Ile Thr Cys Trp Tyr Gln Gln Lys Pro Gly Glu Ala
 20 25 30
 Pro Lys Val Leu Ile Tyr
 35

<210> 13
 <211> 38
 <212> PRT
 <213> Mus sp.

<400> 13
 Asp Ile Val Met Thr Gln Ser Gln Lys Phe Met Ser Thr Ser Val Gly
 1 5 10 15
 Asp Arg Val Ser Ile Thr Cys Trp Tyr Gln Gln Lys Pro Gly Gln Ser
 20 25 30

Pro Lys Leu Leu Ile Tyr
35

<210> 14
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
humanized VL#1 peptide

<400> 14
Asp Ile Val Met Thr Gln Ser Pro Ser Phe Leu Ser Ala Ser Val Gly
1 5 10 15

Asp Arg Val Thr Ile Thr Cys Trp Tyr Gln Gln Lys Pro Gly Lys Ser
20 25 30

Pro Lys Leu Leu Ile Tyr
35

<210> 15
<211> 32
<212> PRT
<213> Homo sapiens

<400> 15
Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
1 5 10 15

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Thr Tyr Tyr Cys
20 25 30

<210> 16
<211> 42
<212> PRT
<213> Homo sapiens

<400> 16
Gly Val Pro Ser Arg Phe Ser Gly Ser Gly Ser Gly Thr Glu Phe Thr
1 5 10 15

Leu Thr Ile Ser Ser Leu Gln Ser Asp Asp Phe Ala Thr Tyr Tyr Cys
20 25 30

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
35 40

<210> 17
<211> 42
<212> PRT
<213> Mus sp.

<400> 17

Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
 1 5 10 15

Leu Thr Ile Ser Asn Met Gln Ser Glu Asp Leu Ala Asp Tyr Phe Cys
 20 25 30

Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 35 40

<210> 18

<211> 42

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
 humanized VL#1 peptide

<400> 18

Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
 1 5 10 15

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Asp Tyr Phe Cys
 20 25 30

Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 35 40

<210> 19

<211> 38

<212> PRT

<213> Homo sapiens

<400> 19

Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
 1 5 10 15

Glu Arg Ala Thr Ile Asn Cys Trp Tyr Gln Gln Lys Pro Gly Gln Pro
 20 25 30

Pro Lys Leu Leu Ile Tyr
 35

<210> 20

<211> 38

<212> PRT

<213> Mus sp.

<400> 20

Asp Ile Val Met Thr Gln Ser Gln Lys Phe Met Ser Thr Ser Val Gly
 1 5 10 15

Asp Arg Val Ser Ile Thr Cys Trp Tyr Gln Gln Lys Pro Gly Gln Ser
 20 25 30

Pro Lys Leu Leu Ile Tyr
35

<210> 21
<211> 38
<212> PRT
<213> Artificial Sequence

<220>
<223> Description of Artificial Sequence: Synthetic
humanized VL#2 peptide

<400> 21
Asp Ile Val Met Thr Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly
1 5 10 15
Glu Arg Ala Thr Ile Asn Cys Trp Tyr Gln Gln Lys Pro Gly Gln Ser
20 25 30

Pro Lys Leu Leu Ile Tyr
35

<210> 22
<211> 42
<212> PRT
<213> Homo sapiens

<400> 22
Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
1 5 10 15
Leu Thr Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Val Tyr Tyr Cys
20 25 30

Phe Gly Gln Gly Thr Lys Leu Glu Ile Lys
35 40

<210> 23
<211> 42
<212> PRT
<213> Mus sp.

<400> 23
Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
1 5 10 15
Leu Thr Ile Ser Asn Met Gln Ser Glu Asp Leu Ala Asp Tyr Phe Cys
20 25 30

Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
35 40

<210> 24
 <211> 42
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 humanized VL#2 peptide

<400> 24
 Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
 1 5 10 15
 Leu Thr Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Asp Tyr Phe Cys
 20 25 30
 Phe Gly Gly Gly Thr Lys Leu Glu Ile Lys
 35 40

<210> 25
 <211> 30
 <212> PRT
 <213> Homo sapiens

<400> 25
 Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
 1 5 10 15
 Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser
 20 25 30

<210> 26
 <211> 30
 <212> PRT
 <213> Mus sp.

<400> 26
 Glu Val Gln Leu Gln Glu Ser Gly Pro Gly Ser Val Lys Pro Ser Gln
 1 5 10 15
 Thr Leu Ser Leu Thr Cys Ser Val Thr Gly Asp Ser Ile Thr
 20 25 30

<210> 27
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 humanized VH#1 peptide

<400> 27
 Glu Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Glu
 1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Asp Ser Ile Thr
 20 25 30

<210> 28
 <211> 30
 <212> PRT
 <213> Homo sapiens

<400> 28
 Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
 1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser
 20 25 30

<210> 29
 <211> 30
 <212> PRT
 <213> Homo sapiens

<400> 29
 Gln Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
 1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Gly Ser Ile Ser
 20 25 30

<210> 30
 <211> 30
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 humanized VH#2 peptide

<400> 30
 Glu Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro Ser Gln
 1 5 10 15

Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Asp Ser Ile Thr
 20 25 30

<210> 31
 <211> 46
 <212> PRT
 <213> Homo sapiens

<400> 31
 Trp Ile Arg Gln Pro Pro Gly Lys Gly Leu Glu Trp Ile Gly Arg Val
 1 5 10 15

Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser
 20 25 30

Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg
 35 40 45

<210> 32
 <211> 46
 <212> PRT
 <213> Mus sp.

<400> 32
 Trp Ile Arg Lys Phe Pro Gly Asn Lys Leu Glu Tyr Met Gly Arg Ile
 1 5 10 15

Ser Ile Thr Arg Asp Thr Ser Gln Asn Gln Phe Tyr Leu Gln Leu Asn
 20 25 30

Ser Val Thr Thr Glu Asp Thr Gly Thr Tyr Tyr Cys Ala Cys
 35 40 45

<210> 33
 <211> 46
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 humanized VH#1 peptide

<400> 33
 Trp Ile Arg Lys Pro Pro Gly Asn Lys Leu Glu Tyr Met Gly Arg Ile
 1 5 10 15

Ser Ile Ser Arg Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser
 20 25 30

Ser Val Thr Ala Ala Asp Thr Gly Val Tyr Tyr Cys Ala Cys
 35 40 45

<210> 34
 <211> 46
 <212> PRT
 <213> Homo sapiens

<400> 34
 Trp Ile Arg Gln Pro Ala Gly Lys Gly Leu Glu Trp Ile Gly Arg Val
 1 5 10 15

Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser
 20 25 30

Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg
 35 40 45

<210> 35
 <211> 46
 <212> PRT
 <213> Homo sapiens

<400> 35
 Trp Ile Arg Gln His Pro Gly Lys Gly Leu Glu Trp Ile Gly Arg Val
 1 5 10 15
 Thr Ile Ser Val Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser
 20 25 30
 Ser Val Thr Ala Ala Asp Thr Ala Val Tyr Tyr Cys Ala Arg
 35 40 45

<210> 36
 <211> 46
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 humanized VH#2 peptide

<400> 36
 Trp Ile Arg Lys His Pro Gly Asn Lys Leu Glu Tyr Met Gly Arg Ile
 1 5 10 15
 Ser Ile Ser Arg Asp Thr Ser Lys Asn Gln Phe Ser Leu Lys Leu Ser
 20 25 30
 Ser Val Thr Ala Ala Asp Thr Gly Val Tyr Tyr Cys Ala Cys
 35 40 45

<210> 37
 <211> 11
 <212> PRT
 <213> Homo sapiens

<400> 37
 Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 1 5 10

<210> 38
 <211> 11
 <212> PRT
 <213> Mus sp.

<400> 38
 Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
 1 5 10

<210> 39

<211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 humanized VH#1 peptide

<400> 39
 Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
 1 5 10

<210> 40
 <211> 11
 <212> PRT
 <213> Homo sapiens

<400> 40
 Trp Gly Gln Gly Thr Met Val Thr Val Ser Ser
 1 5 10

<210> 41
 <211> 11
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 humanized VH#2 peptide

<400> 41
 Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser
 1 5 10

<210> 42
 <211> 29
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Primer

<400> 42
 tgcagcatcc gtacgtttga ttccagctt

29

<210> 43
 <211> 31
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Primer

<400> 43

gggggtgtcg tgctagctgm rgagacrgtg a

31

<210> 44

<211> 411

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
humanized VL#1 nucleotide

<220>

<221> CDS

<222> (13)..(411)

<400> 44

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 Met Gly Phe Lys Met Glu Ser Gln Phe Leu Ala Phe Val
 1 5 10

ttc gcg ttt ctc tgg ttg tct ggt gtt gat gga gac att gtg atg acc 99
 Phe Ala Phe Leu Trp Leu Ser Gly Val Asp Gly Asp Ile Val Met Thr
 15 20 25

cag tct cca tct ttc ctc tcc gcc tcc gta gga gac agg gtc acc atc 147
 Gln Ser Pro Ser Phe Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile
 30 35 40 45

acc tgc aag gcc agt cag aat gtg att act gct gta gcc tgg tat caa 195
 Thr Cys Lys Ala Ser Gln Asn Val Ile Thr Ala Val Ala Trp Tyr Gln
 50 55 60

cag aaa cca gga aag tct cct aaa ttg ctg att tac tcg gca tcc aat 243
 Gln Lys Pro Gly Lys Ser Pro Lys Leu Leu Ile Tyr Ser Ala Ser Asn
 65 70 75

cgg tac act gga gtc cct gat cgc ttc tca ggc agt ggg tct ggg aca 291
 Arg Tyr Thr Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr
 80 85 90

gat ttc act ctc acc atc agc tct ctc cag cca gaa gac ttc gca gat 339
 Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Asp
 95 100 105

tat ttc tgc cag caa tat aac agc tat ccg tac acg ttc gga ggg ggg 387
 Tyr Phe Cys Gln Gln Tyr Asn Ser Tyr Pro Tyr Thr Phe Gly Gly Gly
 110 115 120 125

acc aag ctg gaa atc aaa cgt acg 411
 Thr Lys Leu Glu Ile Lys Arg Thr
 130

<210> 45

<211> 133

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
humanized VL#1 amino acid

<400> 45

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Met Gly Phe Lys Met Glu Ser Gln Phe Leu Ala Phe Val Phe Ala Phe
 1           5           10           15

Leu Trp Leu Ser Gly Val Asp Gly Asp Ile Val Met Thr Gln Ser Pro
          20           25           30

Ser Phe Leu Ser Ala Ser Val Gly Asp Arg Val Thr Ile Thr Cys Lys
          35           40           45

Ala Ser Gln Asn Val Ile Thr Ala Val Ala Trp Tyr Gln Gln Lys Pro
          50           55           60

Gly Lys Ser Pro Lys Leu Leu Ile Tyr Ser Ala Ser Asn Arg Tyr Thr
65           70           75           80

Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
          85           90           95

Leu Thr Ile Ser Ser Leu Gln Pro Glu Asp Phe Ala Asp Tyr Phe Cys
          100          105          110

Gln Gln Tyr Asn Ser Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu
          115          120          125

Glu Ile Lys Arg Thr
          130

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<210> 46

<211> 411

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
humanized VL#2 nucleotide

<220>

<221> CDS

<222> (13)..(411)

<400> 46

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agatctctca cc atg ggc ttc aag atg gag tca cag ttt ctg gcc ttt gta 51
          Met Gly Phe Lys Met Glu Ser Gln Phe Leu Ala Phe Val
              1           5           10

ttc gcg ttt ctc tgg ttg tct ggt gtt gat gga gac att gtg atg acc 99
Phe Ala Phe Leu Trp Leu Ser Gly Val Asp Gly Asp Ile Val Met Thr
          15           20           25

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cag tct cca gat tct ctc gcc gtg tcc ctc gga gag agg gcc acc atc 147
 Gln Ser Pro Asp Ser Leu Ala Val Ser Leu Gly Glu Arg Ala Thr Ile
 30 35 40 45
 aac tgc aag gcc agt cag aat gtg att act gct gta gcc tgg tat caa 195
 Asn Cys Lys Ala Ser Gln Asn Val Ile Thr Ala Val Ala Trp Tyr Gln
 50 55 60
 cag aaa cca gga caa tct cct aaa ttg ctg att tac tcg gca tcc aat 243
 Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Ser Ala Ser Asn
 65 70 75
 cgg tac act gga gtc cct gat cgc ttc tca ggc agt ggg tct ggg aca 291
 Arg Tyr Thr Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr
 80 85 90
 gat ttc act ctc acc atc agc tct ctc cag gcc gaa gac gtg gca gat 339
 Asp Phe Thr Leu Thr Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Asp
 95 100 105
 tat ttc tgc cag caa tat aac agc tat ccg tac acg ttc gga ggg ggg 387
 Tyr Phe Cys Gln Gln Tyr Asn Ser Tyr Pro Tyr Thr Phe Gly Gly Gly
 110 115 120 125
 acc aag ctg gaa atc aaa cgt acg 411
 Thr Lys Leu Glu Ile Lys Arg Thr
 130

<210> 47

<211> 133

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence: Synthetic
humanized VL#2 amino acid

<400> 47

Met Gly Phe Lys Met Glu Ser Gln Phe Leu Ala Phe Val Phe Ala Phe
 1 5 10 15
 Leu Trp Leu Ser Gly Val Asp Gly Asp Ile Val Met Thr Gln Ser Pro
 20 25 30
 Asp Ser Leu Ala Val Ser Leu Gly Glu Arg Ala Thr Ile Asn Cys Lys
 35 40 45
 Ala Ser Gln Asn Val Ile Thr Ala Val Ala Trp Tyr Gln Gln Lys Pro
 50 55 60
 Gly Gln Ser Pro Lys Leu Leu Ile Tyr Ser Ala Ser Asn Arg Tyr Thr
 65 70 75 80
 Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Thr Asp Phe Thr
 85 90 95

Leu Thr Ile Ser Ser Leu Gln Ala Glu Asp Val Ala Asp Tyr Phe Cys
 100 105 110

Gln Gln Tyr Asn Ser Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu
 115 120 125

Glu Ile Lys Arg Thr
 130

<210> 48
 <211> 426
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence: Synthetic
 humanized VH#1 nucleotide

<220>
 <221> CDS
 <222> (7) .. (426)

<400> 48
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 Met Met Val Leu Ser Leu Leu Tyr Leu Leu Thr Ala Leu Pro
 1 5 10

ggt ttc ctg tca gag gtg cag ctt cag gag tca gga cct ggc ctc gtg 96
 Gly Phe Leu Ser Glu Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val
 15 20 25 30

aaa cct tct gag act ctg tcc ctc acc tgt acc gtc tct ggc gac tcc 144
 Lys Pro Ser Glu Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Asp Ser
 35 40 45

atc act aat ggt ttc tgg atc tgg atc cgg aaa cca cca ggg aat aaa 192
 Ile Thr Asn Gly Phe Trp Ile Trp Ile Arg Lys Pro Pro Gly Asn Lys
 50 55 60

ctt gag tac atg ggc tac ata agt tac agt ggt agc act tac tac aat 240
 Leu Glu Tyr Met Gly Tyr Ile Ser Tyr Ser Gly Ser Thr Tyr Tyr Asn
 65 70 75

cca tct ctc aag agt cga atc tcc atc tct cgc gac aca tcc aag aac 288
 Pro Ser Leu Lys Ser Arg Ile Ser Ile Ser Arg Asp Thr Ser Lys Asn
 80 85 90

cag ttc tct cta aag ttg tct tct gtg act gcc gcc gac aca ggc gtg 336
 Gln Phe Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Gly Val
 95 100 105 110

tat tac tgt gcc tgc cgc agt tac ggg agg acc ccg tac tac ttt gac 384
 Tyr Tyr Cys Ala Cys Arg Ser Tyr Gly Arg Thr Pro Tyr Tyr Phe Asp
 115 120 125

<220>
<223> Description of Artificial Sequence: Synthetic
humanized VH#1 amino acid

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<400> 49
Met Met Val Leu Ser Leu Leu Tyr Leu Leu Thr Ala Leu Pro Gly Phe
  1                               10                      15

Leu Ser Glu Val Gln Leu Gln Glu Ser Gly Pro Gly Leu Val Lys Pro
      20                               25                      30

Ser Glu Thr Leu Ser Leu Thr Cys Thr Val Ser Gly Asp Ser Ile Thr
      35                               40                      45

Asn Gly Phe Trp Ile Trp Ile Arg Lys Pro Pro Gly Asn Lys Leu Glu
  50                               55                      60

Tyr Met Gly Tyr Ile Ser Tyr Ser Gly Ser Thr Tyr Tyr Asn Pro Ser
  65                               70                      75                      80

Leu Lys Ser Arg Ile Ser Ile Ser Arg Asp Thr Ser Lys Asn Gln Phe
      85                               90                      95

Ser Leu Lys Leu Ser Ser Val Thr Ala Ala Asp Thr Gly Val Tyr Tyr
      100                               105                      110

Cys Ala Cys Arg Ser Tyr Gly Arg Thr Pro Tyr Tyr Phe Asp Phe Trp
      115                               120                      125

Gly Gln Gly Thr Thr Leu Thr Val Ser Ser Ala Ser
      130                               135                      140

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<210> 50
<211> 411
<212> DNA
<213> Homo sapiens
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<220>
<221> CDS
<222> (13) .. (411)
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<400> 50
agatctctca cc atg ggc ttc aag atg gag tca cag ttt ctg gcc ttt gta 51
          Met Gly Phe Lys Met Glu Ser Gln Phe Leu Ala Phe Val
              1              5              10

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ttc gcg ttt ctc tgg ttg tct ggt gtt gat gga gac att gtg atg acc 99
Phe Ala Phe Leu Trp Leu Ser Gly Val Asp Gly Asp Ile Val Met Thr
    15                20                25

cag tct caa aaa ttc atg tcc aca tcc gta gga gac agg gtc agc atc 147
Gln Ser Gln Lys Phe Met Ser Thr Ser Val Gly Asp Arg Val Ser Ile
    30                35                40                45

acc tgc aag gcc agt cag aat gtg att act gct gta gcc tgg tat caa 195
Thr Cys Lys Ala Ser Gln Asn Val Ile Thr Ala Val Ala Trp Tyr Gln
                50                55                60

cag aaa cca gga caa tct cct aaa ttg ctg att tac tcg gca tcc aat 243
Gln Lys Pro Gly Gln Ser Pro Lys Leu Leu Ile Tyr Ser Ala Ser Asn
                65                70                75

cgg tac act gga gtc cct gat cgc ttc tca ggc agt ggg tct ggg aca 291
Arg Tyr Thr Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr
    80                85                90

gat ttc act ctc acc atc agc aat atg cag tct gaa gac ctg gca gat 339
Asp Phe Thr Leu Thr Ile Ser Asn Met Gln Ser Glu Asp Leu Ala Asp
    95                100                105

tat ttc tgc cag caa tat aac agc tat ccg tac acg ttc gga ggg ggg 387
Tyr Phe Cys Gln Gln Tyr Asn Ser Tyr Pro Tyr Thr Phe Gly Gly Gly
    110                115                120                125

acc aag ctg gaa atc aaa cgt acg 411
Thr Lys Leu Glu Ile Lys Arg Thr
                130

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<210> 51
 <211> 133
 <212> PRT
 <213> Homo sapiens

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<400> 51
Met Gly Phe Lys Met Glu Ser Gln Phe Leu Ala Phe Val Phe Ala Phe
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Leu Trp Leu Ser Gly Val Asp Gly Asp Ile Val Met Thr Gln Ser Gln
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Lys Phe Met Ser Thr Ser Val Gly Asp Arg Val Ser Ile Thr Cys Lys
    35                40                45

Ala Ser Gln Asn Val Ile Thr Ala Val Ala Trp Tyr Gln Gln Lys Pro
    50                55                60

Gly Gln Ser Pro Lys Leu Leu Ile Tyr Ser Ala Ser Asn Arg Tyr Thr
    65                70                75                80

Gly Val Pro Asp Arg Phe Ser Gly Ser Gly Ser Gly Thr Asp Phe Thr
    85                90                95

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Leu Thr Ile Ser Asn Met Gln Ser Glu Asp Leu Ala Asp Tyr Phe Cys
 100 105 110

Gln Gln Tyr Asn Ser Tyr Pro Tyr Thr Phe Gly Gly Gly Thr Lys Leu
 115 120 125

Glu Ile Lys Arg Thr
 130

<210> 52

<211> 426

<212> DNA

<213> Homo sapiens

<220>

<221> CDS

<222> (7)..(426)

<400> 52

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 Met Met Val Leu Ser Leu Leu Tyr Leu Leu Thr Ala Leu Pro
 1 5 10

ggt ttc ctg tca gag gtg cag ctt cag gag tca gga cct agc ctc gtg 96
 Gly Phe Leu Ser Glu Val Gln Leu Gln Glu Ser Gly Pro Ser Leu Val
 15 20 25 30

aaa cct tct cag act ctg tcc ctc acc tgt tct gtc act ggc gac tcc 144
 Lys Pro Ser Gln Thr Leu Ser Leu Thr Cys Ser Val Thr Gly Asp Ser
 35 40 45

atc act aat ggt ttc tgg atc tgg atc cgg aaa ttc cca ggg aat aaa 192
 Ile Thr Asn Gly Phe Trp Ile Trp Ile Arg Lys Phe Pro Gly Asn Lys
 50 55 60

ctt gag tac atg ggc tac ata agt tac agt ggt agc act tac tac aat 240
 Leu Glu Tyr Met Gly Tyr Ile Ser Tyr Ser Gly Ser Thr Tyr Tyr Asn
 65 70 75

cca tct ctc aag agt cga atc tcc atc act cgc gac aca tcc cag aac 288
 Pro Ser Leu Lys Ser Arg Ile Ser Ile Thr Arg Asp Thr Ser Gln Asn
 80 85 90

cag ttc tac cta caa ttg aat tct gtg act act gag gac aca ggc aca 336
 Gln Phe Tyr Leu Gln Leu Asn Ser Val Thr Thr Glu Asp Thr Gly Thr
 95 100 105 110

tat tac tgt gcc tgc cgc agt tac ggg agg acc ccg tac tac ttt gac 384
 Tyr Tyr Cys Ala Cys Arg Ser Tyr Gly Arg Thr Pro Tyr Tyr Phe Asp
 115 120 125

ttc tgg ggc caa ggc acc act ctc acc gtc tcc tca gct agc 426
 Phe Trp Gly Gln Gly Thr Thr Leu Thr Val Ser Ser Ala Ser
 130 135 140

<210> 53
 <211> 140
 <212> PRT
 <213> Homo sapiens

<400> 53

Met	Met	Val	Leu	Ser	Leu	Leu	Tyr	Leu	Leu	Thr	Ala	Leu	Pro	Gly	Phe
1				5					10					15	
Leu	Ser	Glu	Val	Gln	Leu	Gln	Glu	Ser	Gly	Pro	Ser	Leu	Val	Lys	Pro
		20						25					30		
Ser	Gln	Thr	Leu	Ser	Leu	Thr	Cys	Ser	Val	Thr	Gly	Asp	Ser	Ile	Thr
		35					40					45			
Asn	Gly	Phe	Trp	Ile	Trp	Ile	Arg	Lys	Phe	Pro	Gly	Asn	Lys	Leu	Glu
	50					55					60				
Tyr	Met	Gly	Tyr	Ile	Ser	Tyr	Ser	Gly	Ser	Thr	Tyr	Tyr	Asn	Pro	Ser
65					70					75					80
Leu	Lys	Ser	Arg	Ile	Ser	Ile	Thr	Arg	Asp	Thr	Ser	Gln	Asn	Gln	Phe
				85					90					95	
Tyr	Leu	Gln	Leu	Asn	Ser	Val	Thr	Thr	Glu	Asp	Thr	Gly	Thr	Tyr	Tyr
		100						105					110		
Cys	Ala	Cys	Arg	Ser	Tyr	Gly	Arg	Thr	Pro	Tyr	Tyr	Phe	Asp	Phe	Trp
		115					120					125			
Gly	Gln	Gly	Thr	Thr	Leu	Thr	Val	Ser	Ser	Ala	Ser				
130						135					140				